



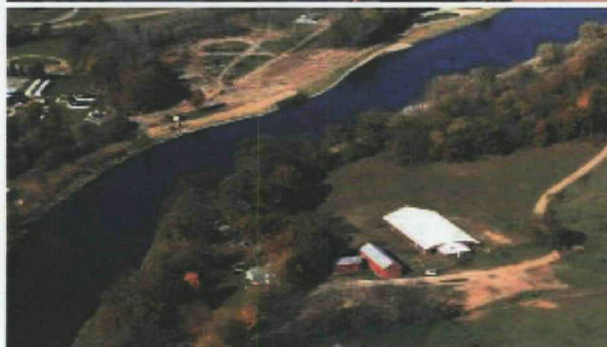
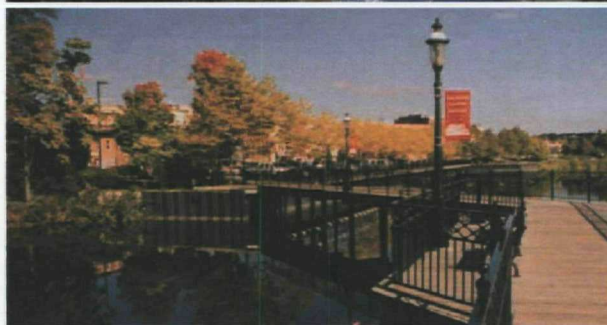
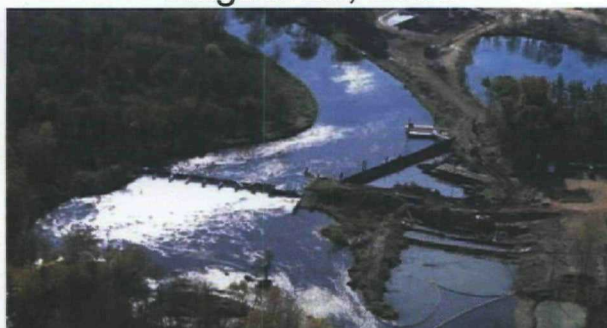
Time-Critical Removal Action in the Former Plainwell Impoundment

Site Tour for Kalamazoo Environmental Council
August 28, 2008

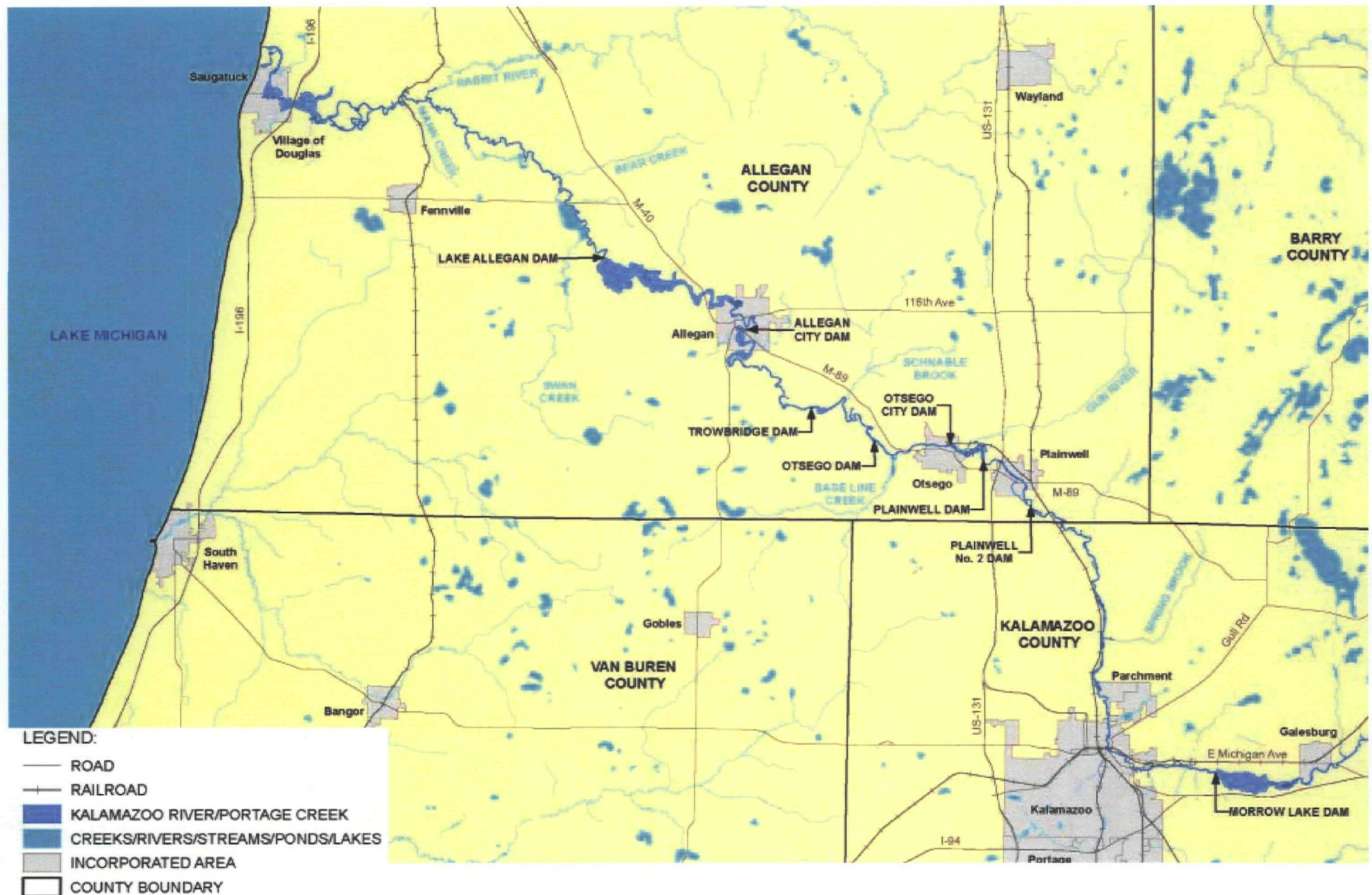
US EPA RECORDS CENTER REGION 5



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Kalamazoo River Superfund Site





Kalamazoo River Superfund Site: Fast Facts

- Added to the National Priorities List in 1990
- Site spans nearly 80 miles of river from Morrow Dam to Lake Michigan
- KRSO, USEPA, and State of Michigan investigations of the Site over the past 15 years have yielded more than 16,000 samples of soils, sediment, water, fish, and other biota
- In October 2000 KRSO submitted draft Remedial Investigation and Feasibility Study (RI/FS) Reports addressing the river between Morrow Dam and Lake Allegan Dam to MDEQ (KRSO also submitted a Supplement Report that included details and results of additional, supporting work)

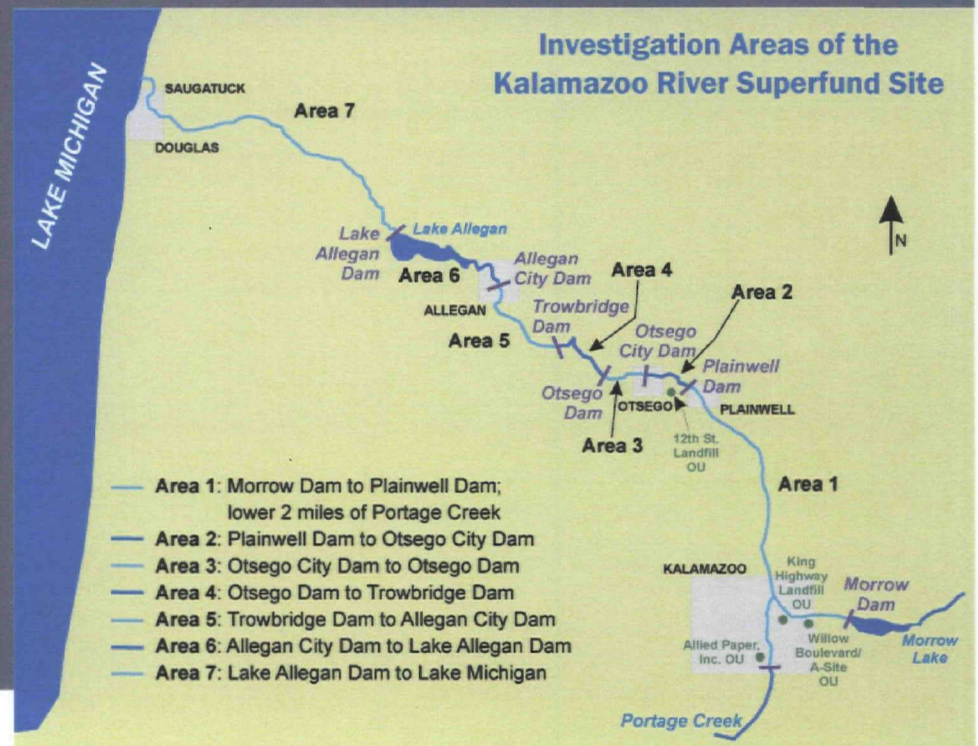
Kalamazoo River Superfund Site: Regulatory Responsibility

- The State of Michigan (first MDNR then MDEQ) was the initial regulatory lead for the Site
- USEPA assumed the regulatory lead for the Site in 2001 – MDEQ retains the regulatory lead for certain operable units
- A new phase of work at the Site began in February 2007 with the finalization of two Administrative Settlement Agreement and Order on Consent (AOC) documents
 - Both AOCs were signed by USEPA and KRSG
 - The Supplemental Remedial Investigation/Feasibility Study (SRI/FS) AOC addresses the Kalamazoo River between Morrow Dam and Lake Michigan
 - The Time-Critical Removal Action (TCRA) AOC describes the work currently being implemented in the former Plainwell Impoundment

Kalamazoo River Superfund Site:

Current Work at the Site

- The Superfund Site is divided into several Operable Units – efforts in each Operable Unit can proceed on a separate schedule
- The February 2007 SRI/FS AOC governs current work in the Kalamazoo River/Portage Creek Operable Unit – this is the Kalamazoo River from Morrow Dam to Lake Michigan, including a stretch of Portage Creek downstream of the Allied Paper, Inc. Operable Unit
- For the River and Creek, supplemental investigations are underway in Area 1 (Morrow Dam to Plainwell Dam)



Summary of Response Actions Completed or Underway at the Site

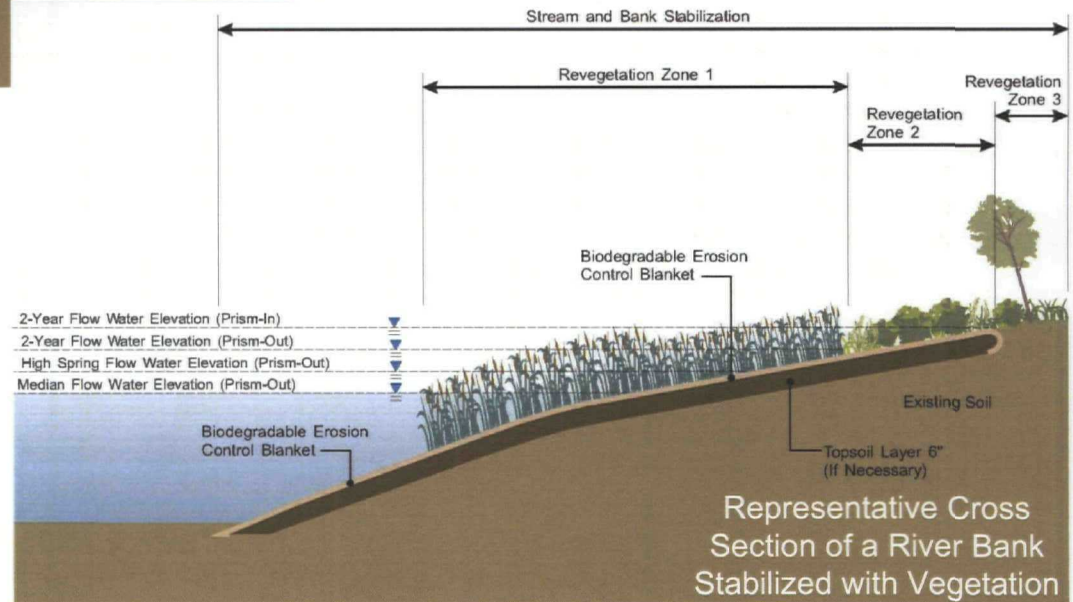
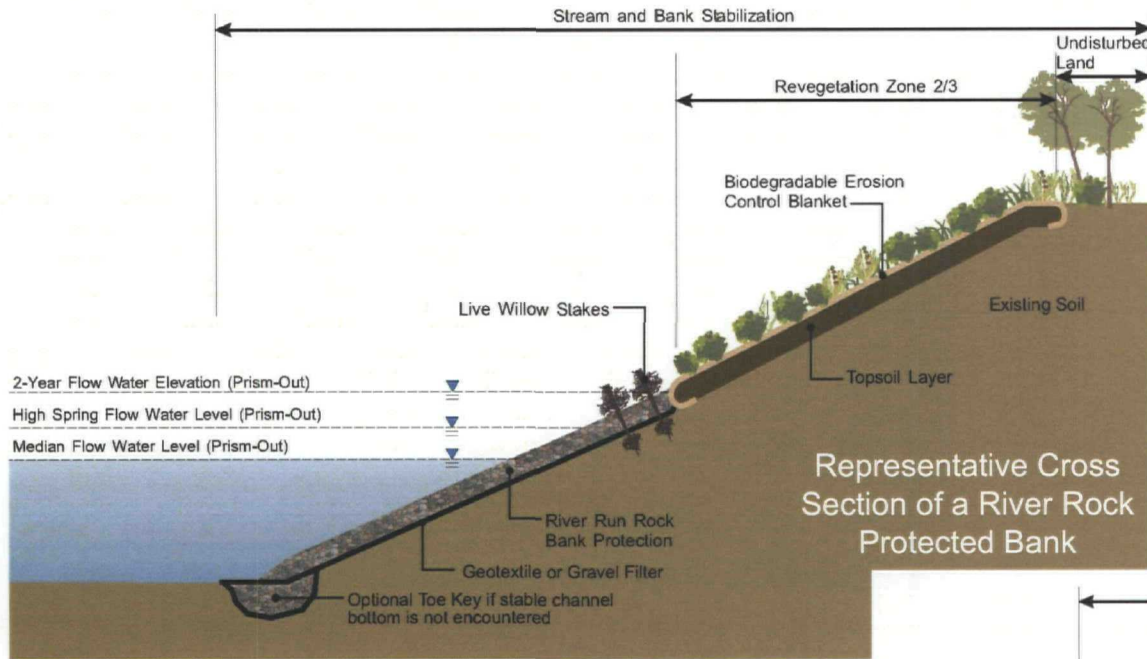
Location	Response Actions	Dates of Action
Past Response Actions		
Allied Paper Inc., Operable Unit	• Excavated 146,000 cubic yards (cy) of materials from Bryant Mill Pond	1998-1999
	• Removed 2,000 cy of materials from along Portage Creek and consolidated at the OU	2002
	• Stabilized berms and installed sheetpile walls along Portage Creek	Completed in 2001
	• Installed groundwater monitoring network (monitored quarterly)	2000
	• Installed groundwater recovery and treatment system	2004
	• Installed 18-acre landfill cap	Completed in 2003
King Highway Landfill Operable Unit	• Excavated 58,000 cy of materials from areas directly adjacent to the KHL OU, King Street Storm Sewer, Kalamazoo Mill Lagoons, King Mill Lagoons, and other locations	1998-1999
	• Capped 23-acre site	Completed in 2000
	• Stabilized berms around the OU and installed sheetpile walls along the Kalamazoo River	1994, 1996, 1999
	• Installed groundwater monitoring network (monitored quarterly)	2000, 2002
	• Installed gas probes/cutoff trench	2003, 2006, 2008
Willow Boulevard/A-Site Operable Unit	• Excavated 7,000 cy sediment from river	1999-2000
	• Stabilized A-Site berms and installed sheetpile walls along the Kalamazoo River	1999
	• Consolidated materials at Willow Boulevard Site, regraded area, and installed a sand/soil cover for erosion protection	1999-2000
	• Constructed bridge and road over Davis Creek for access to A-Site	1999
(Simpson) Plainwell Mill	• Cleaned storm sewers	1995
Kalamazoo Mill/Hawthorne Mill TCRA	• Removed 50,000 cy soil from mill properties	2007
	• In post-construction monitoring phase	2007-2012
Ongoing Response Actions		
Former Plainwell Impoundment TCRA	• Removal of 132,000 cy sediment and soil • Offsite disposal • Reconstruction/stabilization of river banks	2007-2009
Planned Response Actions		
Willow Boulevard/A-Site Operable Unit	• Removal of 13,800 cy materials – planned for 2009/2010	Planned for 2009-2010
12th Street Landfill OU (Weyerhaeuser Co. is the responsible party, not the KRSG)	• Record of Decision signed in 2001 • Consent Decree finalized in 2005 • Remedy calls for consolidation of PCB-containing materials and installation of a cap over the OU • Work will also include response actions at the Plainwell Mill	Work at the Plainwell Mill underway in 2008.

Plainwell Time-Critical Removal Action 2007 Summary and 2008 Overview

Time-Critical Removal Action in the former Plainwell Impoundment

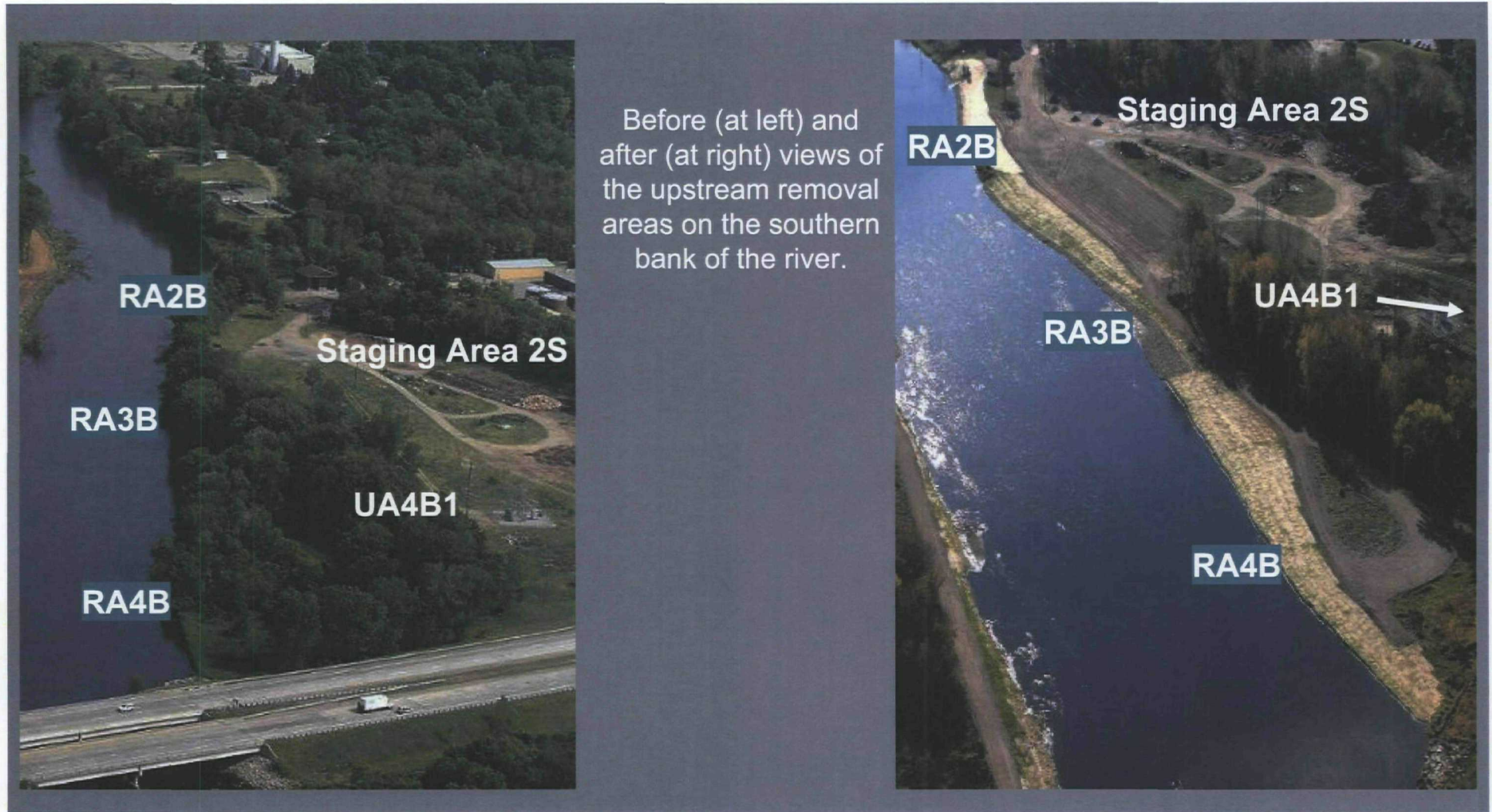


Bank Stabilization Approaches



2007 Season:

Removal Areas 2B, 3B, and 4B Upland Area 4B1

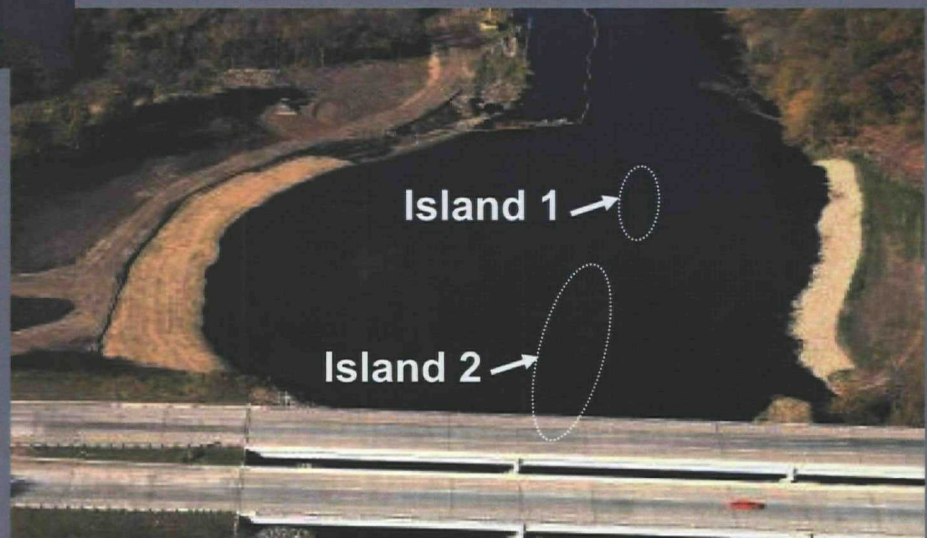


2007 Season:

Islands 1, 2, and 3 Removal Area 5

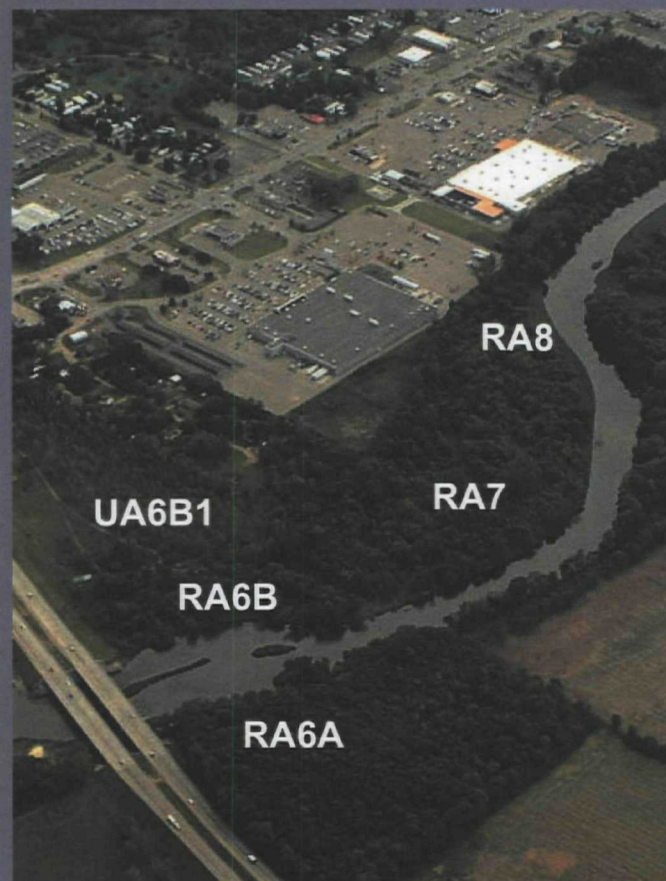


In July and August field crews were at work in Removal Area 5 and on Island 3, and by September were removing the two islands just downstream of the US-131 Bridge. Before (left) and after (below) photographs show the complete removal of Islands 1 and 2.



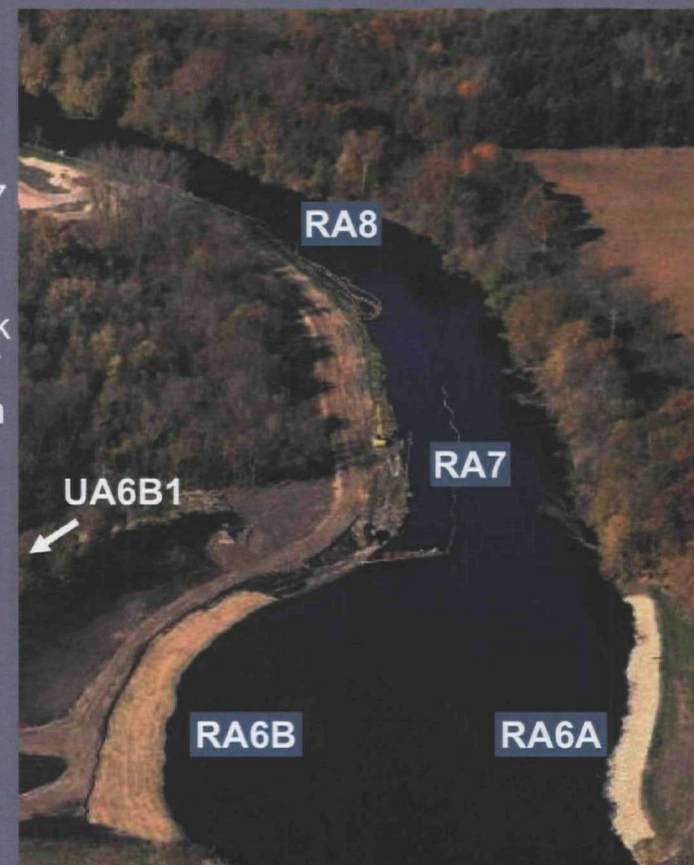
2007 Season:

Removal Areas 6A, 6B, 7, 8, and Upland Area 6B1



Downstream of the US-131 Bridge
in May 2007

Initial plans called for excavation efforts in the 2007 season to end with Removal Areas 6A and 6B, but the project team was able to work up through Removal Areas 7 and 8, getting a jump start on the 2008 season.



Downstream of the US-131 Bridge
in October 2007

2008 Season: Overview



- Construction Season: March through December
 - 83,000 cy of material to be removed
- Cofferdam and Water Control Structure installation, operation, and removal

2008 Season:

Progress through mid-June

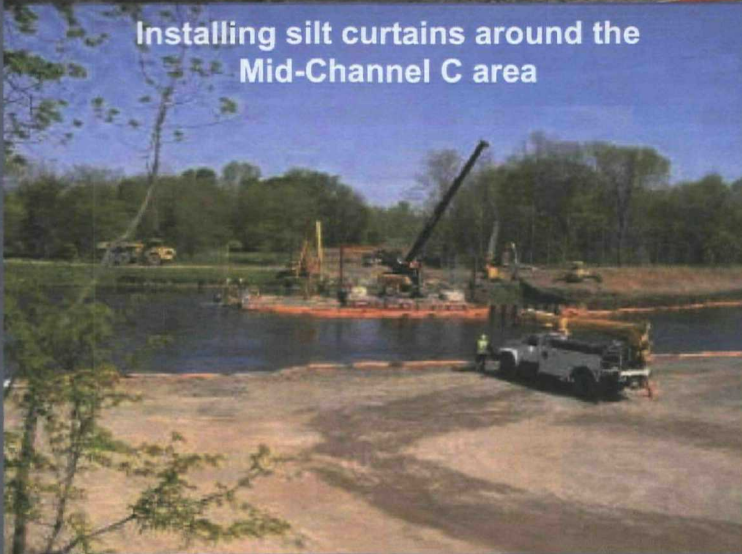
Soil and sediment processing activities at Staging Area 5S



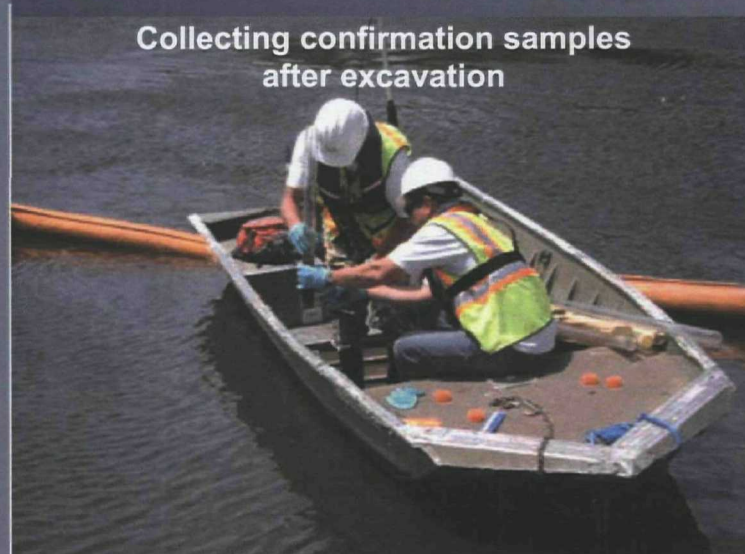
Excavating soil and sediment in Removal Area 12A



Installing silt curtains around the Mid-Channel C area



Collecting confirmation samples after excavation



2008 Season: Replanting Efforts

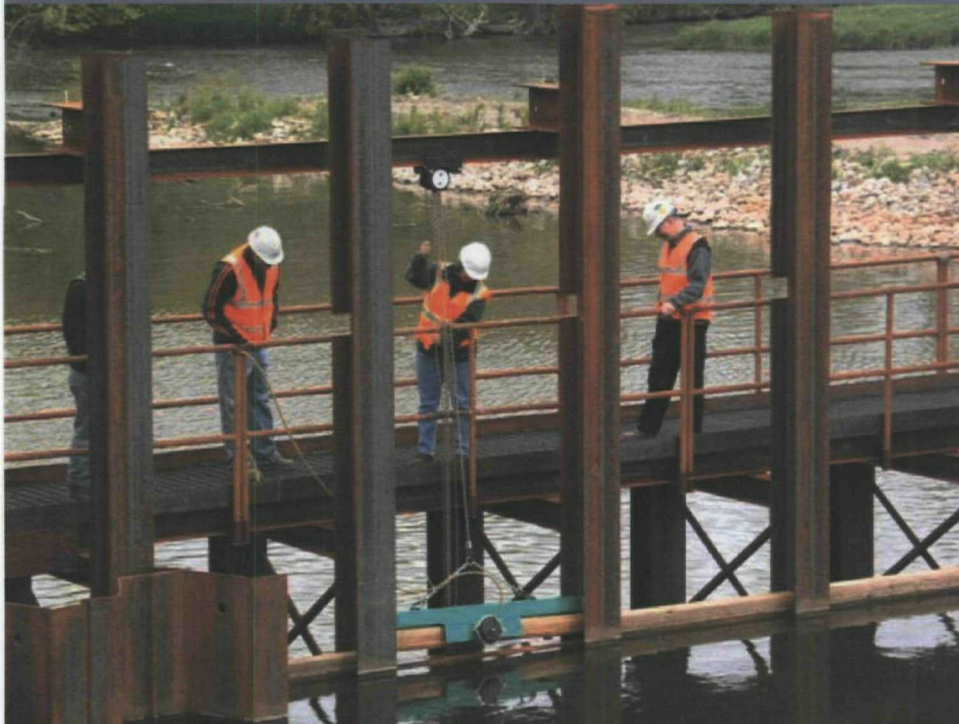


Photographs of
replanting efforts
(taken in August 2008)
in the areas where
removal actions were
completed during the
2007 construction
season

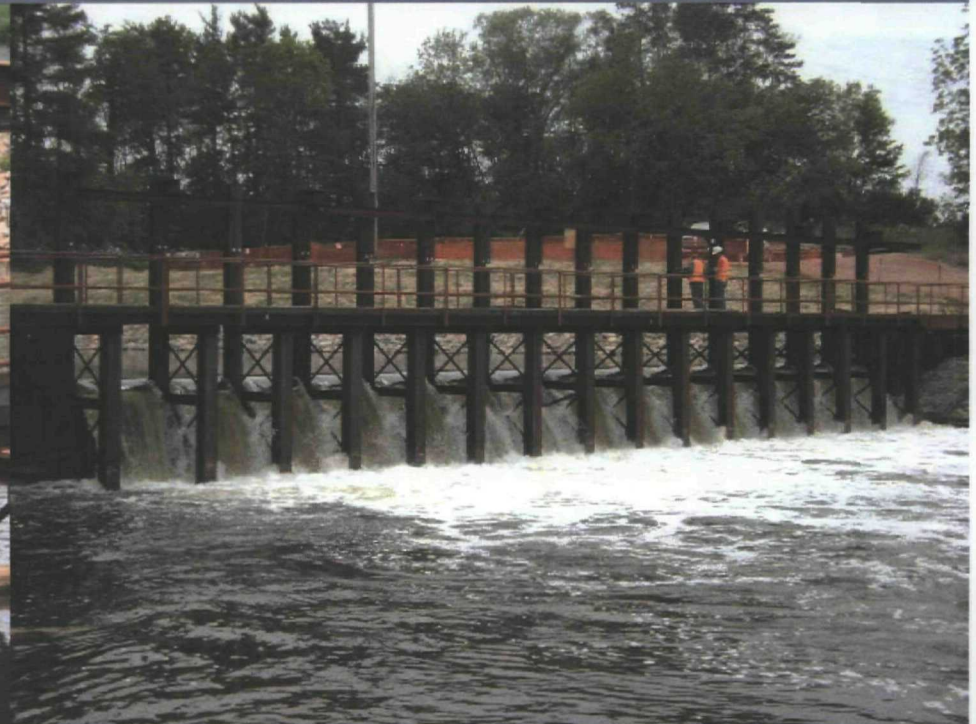


2008 Season:

Operation of the Water Control Structure



Sharon Hanshue of the Michigan Department of Natural Resources pulling out the first stop log in the structure (May 2008)

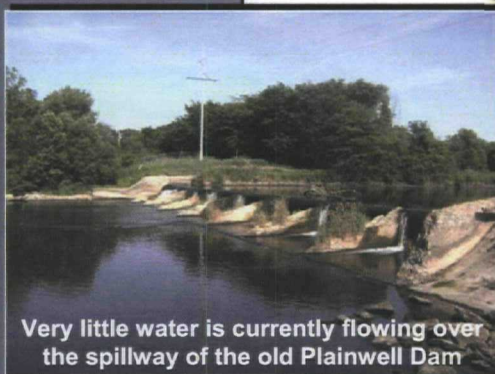
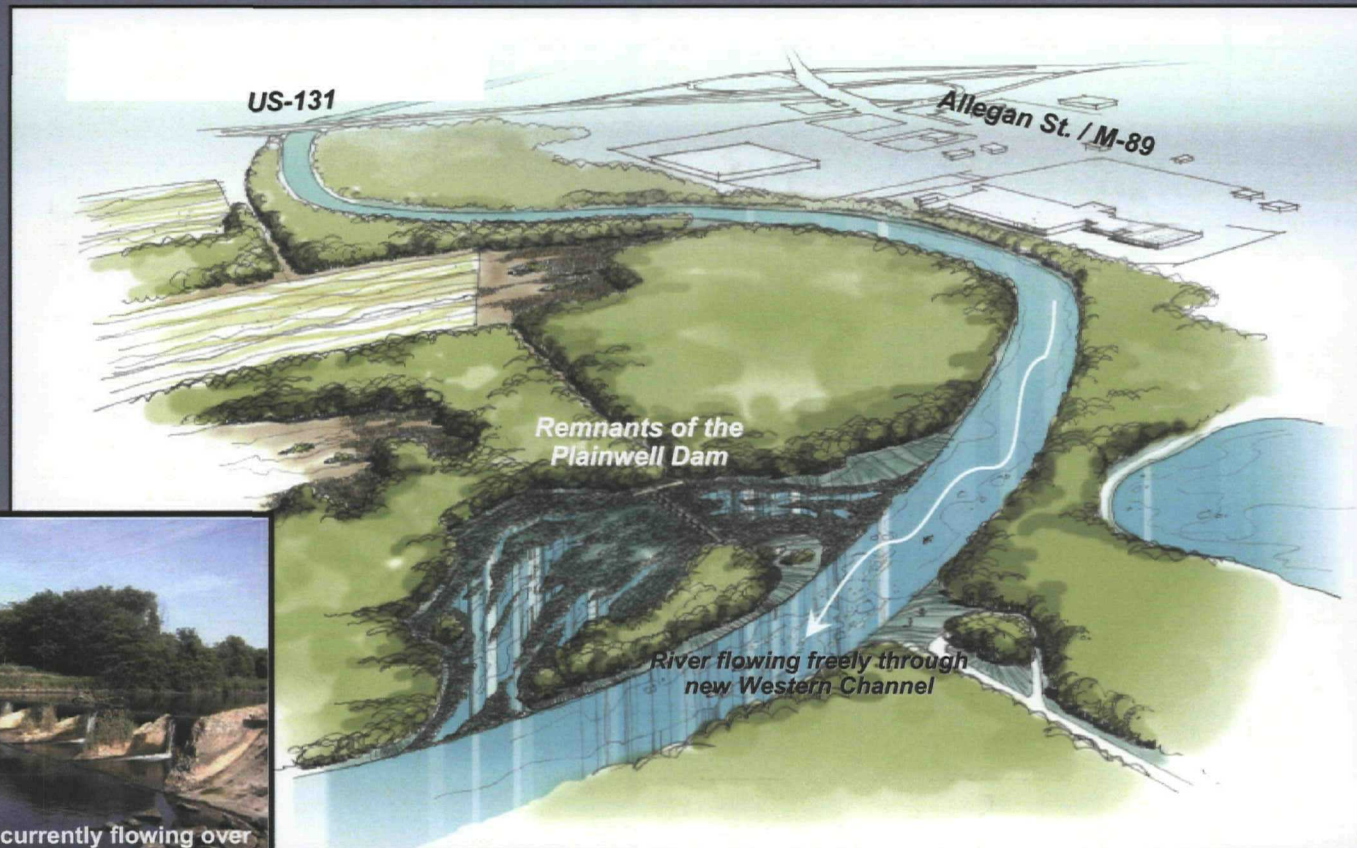


View of the structure approximately two weeks after pulling the first stop log (May 2008)

Looking Forward:

Restoring the Historical Western Channel

- At the end of the 2008 season, the project team will remove the water control structure, restoring the flow of the river through the historical Western Channel



Very little water is currently flowing over the spillway of the old Plainwell Dam